CITY OF NEWPORT BEACH

COMMUNITY DEVELOPMENT DEPARTMENT
BUILDING DIVISION
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CAL GREEN
NEW BUILDINGS - COMMERCIAL
MANDATORY MEASURES

DIVISION 5.1-PLANNING AND DESIGN

1. Outdoor lighting systems shall be designed and installed to comply with the following. (**5.106.8**)
    A. Backlighting, Uplight and Glare (BUG) ratings as defined in IESNA TM-15-11; and
    B. Allowable BUG ratings not exceeding those shown in Table 5.106.8,

DIVISION A5.2-ENERGY EFFICIENCY

2. All equipment and appliances provided by the builder shall be ENERGY STAR labeled if ENERGY STAR is applicable t. (**NBMC 15.10.010**) (**A5.204.1)**
3. **Elevators and escalators**. In buildings with more than one elevator or two escalators, provide controls to reduce the energy demand of elevators for part of the day and escalators to reduce speed when no traffic id detected. Document the controls in the project specifications and commissioning plan. (**NBMC 15.10.010**) (**A5.212.1**)

DIVISION 5.3-WATER EFFICIENCY AND CONSERVATION:

4. **Meters**: provide separate meters for uses described in Section 5.303.1.1 and Section 5.303.1.2 (**5.303.1**)
    A. **Buildings in excess of 50,000 sq ft**. Separate submitters shall be installed as follows (**5.303.1.1**):
        1. For each tenant consuming more than 100 gal/day
        2. Where separate submeters for individual building tenants are unfeasible, for water supplied to the following subsystems:
            a. Makeup water for cooling towers where flow through is greater than 500 gpm
            b. Makeup water for evaporative coolers greater than 6 gpm
            c. Steam and hot-water boilers with energy input more than 500,000 Btu/h
    B **Excess Consumption**. Any buildings or a space within a building that is projected to consume more than 1,000 gal/day (**5.303.1.2**)
5. A schedule of plumbing fixture and fixture fittings that will reduce the water use by 20 percent either by using Table 5.303.2.3 or a calculations demonstrating 20% reduction. (**5.303.2**)
6. Combined flow rate of all showerheads controlled by a single valve shall not exceed the maximum flow rate at≥20 percent reduction contained in Table 5.303.2.3 or the shower shall be designed to only allow one showerhead to be in operation at a time. (**5.303.2.1**)
7. Each building shall reduce by 20% wastewater by utilizing nonpotable water systems (captured rain water, recycled water) (**5.303.4**)
8. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall meet the standards referenced in Table 5.503.6. (**5.303.6**)
9. A water budget shall be developed for landscape irrigation use that conforms to Water Efficiency Landscape Ordinance NBMC 14.17. (**5.304.1**)
10. For new water service for landscape area between 1,000 sq ft and 5,000 sq ft. separate submeters or metering devices shall be installed for outdoor potable water use. (**5.304.2**)

11. In new nonresidential construction with 1,000 and 2,500 sq ft landscape area, install irrigation systems and sensors. (**5.304.3**)
    A. Sensors shall be weather or soil moisture based controllers.
    B. For weather-based controllers without integral rain sensors or communications systems that account for local rainfall shall have a separate wired or wireless sensor which connects or communicates with the controllers.

DIVISION A5.3-WATER EFFICIENCY AND CONSERVATION:

12. **Appliances** (**A5.303**)
    A. Clothes washers shall have a maximum Water Factor that will reduce the use of water by 10 percent below the California Energy Commission's WF standards for commercial clothes washers
    B. Dishwashers shall meet the water use of Table A5.303.3

DIVISION 5.4-MATERIAL CONSERVATION AND RESOURCE EFFICIENCY:

13. **Weather protection**. Provide a weather-resistant exterior wall and foundation envelop as required by CBC Section 1403.2 and California Energy Code Section 150. (**5.407.1**)
14. **Moisture control**. Employ moisture control measures by the following methods (**5.407.2**)
    A. Prevent irrigation spray on structures. (**5.407.2.1)**
    B. Design exterior entries and openings to prevent water intrusion into buildings. (**5.407.2.2)**
15. Construction waste shall be collected using City Franchise Hauler. (**5.408.1**)
16. **Excavated soil and land clearing debris.** 100 % of trees, stumps, rocks and associated vegetation and soils resulting from land clearing shall be recycled. (**5.408.3**)
17. For new building 10,000 square foot and over, building commissioning for all building systems covered by T-24, part 6, process systems and renewable shall be included in the design and construction processes of the building project. (**5.410.2**)
    A. Owner's or Owner representative Project Requirements (OPR): The expectation and requirements of the building appropriate to its phase shall be documented before the design phase. (**5.410.2.1**)
    B. Basis of Design: A written explanation of how the design of the building systems meets the OPR shall be completed at the design phase to cover the systems listed in Section 5.410.2.2. (**5.410.2.2**)
    C. Functional performance testing shall be conducted. (**5.410.2.4**)
    D. A systems manual and systems operations training are required. (**5.410.2.5**)
    E. The systems manuals shall be delivered to the building owner or representative and facilities operator and shall include the following (**5.410.2.5.1):**
        1. Site information including facility description, history and current requirements
        2. Site contract information
        3. Basic operations and maintenance including general site operating procedures, basic troubleshooting, recommended maintenance requirements, site events log
        4. Major systems
        5. Site equipment inventory and maintenance notes
        6. A copy of all special inspection verifications
    F. A report of commissioning process activities from design, construction and post construction phase shall be provided to the owner. (**5.410.2.6**)
18. For new building less than 10,000 square feet, testing and adjusting of the systems shall be required. (**5.410.4**):
    A. **Systems**. Develop a written plan of procedures for testing and adjusting systems for the systems listed in Section 5.410.4.2. (**5.410.4.2**)
    B. **Procedures**. Perform testing and adjusting procedures in accordance with applicable standards on each system. (**5.410.4.3**)

C. **HVAC balancing**. Before a new space-conditioning system serving a building or space is operated for normal use, balance in accordance with the procedures defined by national standards listed in Section 5.410.4.3.1 or other method approved by Building Official. (**5.410.4.3.1**)

D. **Reporting**. After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services. (**5.410.4.4**)

E. **Operation and maintenance manual.** Provide the building owner with detailed operating and maintenance instructions and copies of guaranties/warranties for each system prior to final inspection. (**5.410.4.5**)

F. **Inspections and reports**. Include a copy of all inspection verifications and reports required for commissioning building. (**5.410.4.5.1**)

19. **Temporary ventilation**. If the HVAC system is used during the construction, use return air filters with a MERV of 8 or an average efficiency of 30% based on ASHRAE 52.1-1992. Replace filters immediately prior to occupancy. (**5.504.1.3**)
20. At the time of rough installation or during storage on the construction site and until final startup of the heating, cooling, and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, or sheetmetal or other approved material to reduce the amount of dust or debris which many collect in the system. (**5.504.3**)

DIVISION 5.5-ENVIRONMENTAL QUALITY:

21. Finish material pollutant control. (**5.504.4**)
    A. **Adhesives, sealants, caulks**. Adhesives and sealants used on the project shall meet the requirements of the following standards. (**5.504.4.1**)
        1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with SCAQMD Rule 1168 VOC limits as shown in Tables 5.504.1 and 5.504.4.2.
        2. Aerosol adhesives and smaller unit size of adhesives and sealant or caulking compounds (which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards

    B. **Paints and coatings**. Architectural paints and coatings shall comply with Table 5.504.4.3. (**5.504.4.3**)
        1. Aerosol paints and coatings shall meet the Product-Weighted MIR Limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances (**5.504.4.3.1)**

    C. **Carpet systems.** All carpet installed in the building interior shall meet the testing and product requirements of one of the standards listed in Section 5.504.4.4. (**5.504.4.4**)
        1. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label program. (**5.504.4.4.1)**
        2. All carpet adhesive shall meet the requirements of Table 5.504.4.1. (**5.504.4.4.2)**

    D. **Composite wood products**. Hardwood plywood, particleboard and medium density fiberboard composite wood products used interior or exterior of the building shall meet the requirements for formaldehyde as specified in Table 5.504.4. (**5.504.4.5**)
22. **Resilient flooring systems**. Comply with the VOC-emission limits defined in the 2009 CHPS criteria and listed on its High Performance Products Database; products compliant with CHPS criteria certified under the Greenguard Children & Schools program; certified under the FloorScore program of the Resilient Floor Covering Institute; or meet California Department of Public Health 2010 Specification 01350. (**5.504.4.6**)
23. In mechanically ventilated buildings, provide regularly occupied area of the building with air filtration media for outside and return air that provides at least a MERV of 8. MERV 8 filterers shall be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual. (**5.504.5.3**)
24. **Indoor moisture control.** Buildings shall meet or exceed the provisions of CBC, CCR, Title 24, Part 2, Sections 1203 and Chapter 14.1. (**5.505.1**)

25. **Outside air delivery**. For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 121 of the California Energy Code and Chapter 4 of CCR, Title 8. (**5.506.1**)
26. **Carbon dioxide (CO_2) monitoring**. For buildings equipped with demand control ventilation, CO_2 sensors and ventilation controls shall be specified and installed in accordance with the requirements of the California Energy Code, CCR, Section 121(c). (**5.506.2**)
27. Install HVAC and refrigeration equipment that does not contain CFCs. (**5.508.1.1**)
28. Install fire suppression equipment that does not contain Halons. (**5.508.1.2**)

DOCUMENTATIONS

29. Verification of compliance with VOC limits in architectural paintings and coatings as specified in the Table 5.504.4.3 shall be provided at the request of the Building Inspector. (**5.504.4.3.2)**
30. Verification of compliance with formaldehyde limits as specified in the Table 5.504.4 shall be provided when requested by building official by one of the methods (**5.504.4.5.3)**
    A. Product certification and specifications
    B. Chain of custody certifications
    C. Product, labeled and invoiced as meeting the Composite Wood Products regulation
    D. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269 or Europeam 636 3S standards
    E. Other methods approved by the building official.
31. Documentations verifying that resilient flooring materials meet the VOC-emissions limits shall be provided. **A5.504.4.6.1**
32. An acoustical analysis documenting complying interior sound levels shall be prepared by personnel approved by the architect or engineer of record. (**5.507.4.2.1**)

VOC & FORMALDEHYDE LIMITS

TABLE 5.504.4.3 VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS [2,3] (Grams of VOC per Liter of Coating, Less Water and Less Exempt Compounds)	
COATING CATEGORY	**VOC LIMIT**
Flat coatings	50
Nonflat coatings	100
Nonflat-high gloss coatings	150
Specialty Coatings	
Aluminum roof coatings	400
Basement specialty coatings	400
Bituminous roof coatings	50
Bituminous roof primers	350
Bond breakers	350
Concrete curing compounds	350
Concrete/masonry sealers	100
Driveway sealers	50
Dry fog coatings	150
Faux finishing coatings	350
Fire resistive coatings	350
Floor coatings	100
Form-release compounds	250
Graphic arts coatings (sign paints)	500
High temperature coatings	420
Industrial maintenance coatings	250
Low solids coatings[1]	120
Magnesite cement coatings	450
Mastic texture coatings	100
Metallic pigmented coatings	500
Multicolor coatings	250
Pretreatment wash primers	420
Primers, sealers, and undercoaters	100
Reactive penetrating sealers	350
Recycled coatings	250
Roof coatings	50
Rust preventative coatings	250
Shellacs Clear Opaque	 730 550
Specialty primers, sealers and undercoaters	100
Stains	250
Stone consolidants	450
Swimming pool coatings	340
Traffic marking coatings	100
Tub and tile refinish coatings	420
Waterproofing membranes	250
Wood coatings	275
Wood preservatives	350
Zinc-rich primers	340

1. Grams of VOC per liter of coating, including water and including exempt compounds.
2. The specified limits remain in effect unless revised limits are listed in subsequent columns in the table.
3. Values in this table are derived from those specified by the California Air Resources Board, Architectural Coatings Suggested Control Measure, February 1, 2008. More information is available from the Air Resources Board

TABLE 5.504.4.1 ADHESIVE VOC LIMIT [1,2] (Less Water and Less Exempt Compounds in Grams per Liter)	
ARCHITECTURAL APPLICATIONS	**VOC LIMIT**
Indoor carpet adhesives	50
Carpet pad adhesives	50
Outdoor carpet adhesives	150
Wood flooring adhesive	100
Rubber floor adhesives	60
Subfloor adhesives	50
Ceramic tile adhesives	65
VCT and asphalt tile adhesives	50
Drywall and panel adhesives	50
Cove base adhesives	50
Multipurpose construction adhesives	70
Structural glazing adhesives	100
Single-ply roof membrane adhesives	250
Other adhesives not specifically listed	50
SPECIALTY APPLICATIONS	
PVC welding	510
CPVC welding	490
ABS welding	325
Plastic cement welding	250
Adhesive primer for plastic	550
Contact adhesive	80
Special purpose contact adhesive	250
Structural wood member adhesive	140
Top and trim adhesive	250
SUBSTRATE SPECIFIC APPLICATIONS	
Metal to metal	30
Plastic foams	50
Porous material (except wood)	50
Wood	30
Fiberglass	80

1. If an adhesive is used to bond dissimilar substrates together, the adhesive with the highest VOC content shall be allowed.
2. For additional information regarding methods to measure the VOC content specified in this table, see South Coast Air Quality Management District Rule 1168

TABLE 5.504.4.2 SEALANT VOC LIMIT (Less Water and Less Exempt Compounds in Grams per Liter)	
SEALANTS	**VOC LIMIT**
Architectural	250
Marine deck	760
Nonmembrane roof	300
Roadway	250
Single-ply roof membrane	450
Other	420
SEALANT PRIMERS	
Architectural	
Nonporous	250
Porous	775
Modified bituminous	500
Marine deck	760
Other	750

TABLE 5.504.4.5 FORMALDEHYDE LIMITS[1] (Maximum formaldehyde Emissions in Parts per Million)	
PRODUCT	**LIMIT**
Hardwood plywood veneer core	0.05
Hardwood plywood composite core	0.05
Particleboard	0.09
Medium density fiberboard	0.11
Thin medium density fiberboard[2]	0.13

1. Values in this table are derived from those specified by the California Air Resources Board, Air Toxics Control Measure for Composite Wood as tested in accordance with ASTM E 1333-96(2002). For additional information, see *California Code of Regulations*, Title 17, Sections 93120 through 93120.12
2. Thin medium density fiberboard has a maximum thickness of 8 millimeters